

Teaching Current Directions in Psychological Science

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Aimed at integrating cutting-edge psychological science into the classroom, Teaching Current Directions in Psychological Science offers advice and how-to guidance about teaching a particular area of research or topic in psychological science that has been the focus of an article in the APS journal [Current Directions in Psychological Science](#). Current Directions is a peer-reviewed bimonthly journal featuring reviews by leading experts covering all of scientific psychology and its applications and allowing readers to stay apprised of important developments across subfields beyond their areas of expertise. Its articles are written to be accessible to nonexperts, making them ideally suited for use in the classroom.

[Visit the column](#) for supplementary components, including classroom activities and demonstrations.

Visit David G. Myers at his blog [“Talk Psych”](#). Similar to the APS *Observer* column, the mission of his blog is to provide weekly updates on psychological science. Myers and DeWall also coauthor a suite of introductory psychology textbooks, including *Psychology* (11th Ed.), *Exploring Psychology* (10th Ed.), and *Psychology in Everyday Life* (4th Ed.).

[Getting High on Social Connection](#)

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Getting High on Social Connection

by C. Nathan DeWall

[Inagaki, T. K. \(2018\). Opioids and social connection. *Current Directions in Psychological Science*, 27, 85–90. doi:10.1177/0963721417735531](#)

Students crave social connection. Endowed with a need to belong, they strive to form and maintain positive and lasting relationships. They pledge fraternities or sororities, join clubs and sports teams, and seek romantic partners. But until recently, psychological scientists have remained uncertain about the *biological* basis for why people — students, professors, and people beyond the ivory tower — desire social connections.

Tristen Inagaki (2018) helped solve this riddle. Drawing on studies of animals and humans, Inagaki argues that social connection triggers the body's opioid system. When we hold our partner's hand, when someone on social media likes our posts, or when we bond with others over a stressful experience, we experience a rush of neurochemical activity similar to that of taking opiates. The opposite is also true: When we experience social disconnection, our body's opiate system ceases to function properly,

increasing our distress.

To illustrate, imagine the experience of receiving loving messages from your close friends and family members. Normally, these messages would signal to your body that you've experienced a strong social connection, causing your body's natural opioids to ooze through your system. In an ingenious experiment, Inagaki and colleagues (2016) blocked the brain's ability to receive signals from its natural opioid receptors by having participants take the opioid antagonist naltrexone. Compared with when participants took placebo opiate pills, naltrexone reduced feelings of social connection when participants viewed loving messages from family and friends. Naltrexone also reduced daily feelings of social connection, suggesting that a compromised opioid system caused broad changes to how people experience their social interactions.

Is the opioid system related to feelings of social disconnection? To find out, Barbara Herman and Jaak Panksepp (1978) recruited some cuddly guinea pigs and separated them from their mothers. Before the social disconnection experience, Herman and Panksepp injected the guinea pigs with a drug that would release (morphine) or block (naloxone) the body's natural opiates. They found that morphine numbed the guinea pigs to the pain of social disconnection, whereas, consistent with Inagaki and colleagues' (2016) results, naloxone increased their distress.

To bring this cutting-edge science to the classroom, instructors can have students complete the following activity, which demonstrates how social connection and disconnection affect the body's opioid system.

Activity: Going to Any Lengths

Instructors can begin by reviewing Inagaki's argument on the close relationship between social connection and the body's natural opioid system. Please review this material. Your students will need to understand the link between social connection and the opioid system in order to answer the discussion questions. Next, on a PowerPoint slide, ask students to use their phones, laptops, or a piece of paper to record their answer to this question:

What is the most extreme thing you have ever done to be accepted by a group or another person?

After 3 minutes, ask students to spend 5 minutes discussing their responses with a partner. I have used this activity for more than a dozen years and am always surprised by students' responses. Ask students to consider the following questions:

- Why did your need to belong drive you to engage in such extreme behavior to gain acceptance? What does that say about the strength of the need to belong?
- How did it feel when you experienced the hoped-for social acceptance?
- How do you think your social-acceptance experience affected your body's opioid system? How might your social acceptance experience have differed if you had taken a drug (naltrexone) that blocked your brain's ability to receive signals from its natural opioid receptors?

On a second PowerPoint slide, instructors can ask students to consider how they might respond to this question:

What is your most extreme experience of social disconnection?

As students consider their response, ask them to spend 1 minute reflecting on how Inagaki's research might help them answer the following two questions:

- How would your experience of social disconnection have been different if you had taken a drug that released your body's natural opiates, such as morphine?
- How would your experience of social disconnection have been different if you had taken a drug that blocked your body's opioid system, such as naltrexone?

All humans have a need to belong. Even if we prefer solitude to socializing, people need to have positive and lasting connections to feel that life has purpose, coherence, and significance. Sometimes we might question why we crave social connection, considering it a weakness. But we now know that social connections feel good because they activate the body's opioid system, giving us a burst of reward and euphoria. Getting high on social connections shows us why it pays to invest in relationships — and identifies the costs associated with social disconnection.

Don't Go Shoe Shopping When You're Hungry: How Cognitive Mind-Sets Carry Over From One Task to Another

by Cindi May and Gil Einstein

[Xu, A. J., & Schwarz, N. \(2018\). How one thing leads to another: Spillover effects of behavioral mind-sets. *Current Directions in Psychological Science*, 27, 51–55. doi:10.1177/0963721417724238](#)

Most of us know better than to grocery shop on an empty stomach, as hunger can drive us to overfill our shopping carts. But new research by Alison Jing Xu and Norbert Schwarz (2018) suggests that it would be wise to grab a snack before shopping for any merchandise, as hunger can also make us purchase more nonfood items such as office supplies or shoes. It seems that the drives that motivate behavior in one domain (e.g., food acquisition) can “spill over” and influence behavior in another domain (e.g., product acquisition). Once we activate a set of processes necessary for the pursuit of a goal, we are likely to persist with that mind-set when pursuing other goals.

One study of these spillover effects offered hungry and sated participants office supplies. Xu and colleagues (2015) induced hunger by asking all participants to refrain from eating for 4 hours prior to the study. At the start of the study, some participants (hungry condition) examined binder clips, decided how many they wanted to take, and then rated the clips. After completing the binder task, they ate cake. Other participants (sated condition) ate cake before engaging in the binder task. Although the groups rated the binder clips similarly, those who were hungry took 70% more than those who were sated.

These spillover effects occur in other settings in which the mental processes engaged in one setting continue to influence behavior in subsequent settings. For example, when offered a selection of chocolates, people will generally make two decisions. They first decide if they want to eat chocolate; if the answer is *yes*, they then decide which chocolate they desire. However, if people are first asked to consider which elective classes they want to take next term and are then offered a selection of

chocolates, they tend to bypass the whether-to-choose decision and move straight to the which-to-choose decision. Consequently, they eat more chocolates than those who didn't consider courses first (Xu & Wyer, 2007). Similarly, people who make comparative judgments of animals first are likely to bypass the romantic should-I-date decision and instead tackle the whom-should-I-date decision (Xu & Wyer, 2008).

To help students understand this basic effect, consider this demonstration.

Give half of the students in the class (control group) a sheet of paper with the following instructions:

- *Please think about what you learned in this class last week and write down the first three things that come to mind.*
- Give the remaining students (comparative group) a sheet of paper with the following instructions:
- *Listed below are five elective courses that might be offered next term. Please select the course you would most like to enroll in if it were offered:*
- “Not Fit for the Dinner Table: Religion, Race, and Politics in America”
- “Planes, Trains, and Automobiles: More Than Just a Movie”
- “Everything I Need to Know I Learned in Kindergarten”
- “Another Brick in the Wall: Exploring the Representation of Education in Pop Culture”
- “Out of the Lab and Into the World: Science, Media, and Society”

Allow students 1 minute to complete these tasks. When they have finished, pass around a bag with different types of candies. Tell students they may take as many as they like, but they must leave the candies on their desks until the end of class. Once students have taken their candies, assess whether those in the comparative group took more than those in the control group. The research by Xu and colleagues suggests they will, as they are likely to bypass the should-I-take-some question and instead skip right to the which-ones-should-I-take question.

The spillover effects of behavioral mind-set occur in a variety of contexts and influence a myriad of behaviors. Review these findings with your students:

- *Disagreement increases disagreement:* After reading statements likely to induce disagreement (e.g., “My university should raise tuition” or “Reading is bad for the mind”), participants gave less favorable ratings of a potential vacation destination than those who had read statements inducing agreement (Xu & Wyer, 2012).
- *Solving concrete, well-defined problems reduces creativity:* Participants who built a structure out of Legos with step-by-step instructions were less effective on a subsequent task requiring creative thinking (Moreau & Engeset, 2016).
- *Verbal processing disrupts visual processing:* Asking people to verbally describe a face they see impairs later face recognition for that face and for other faces, as verbal processes override visual perceptual processes (Dodson, Johnson, & Schooler, 1997; Schooler & Engstler-Schooler, 1990).
- *Activating a calculative mind-set increases deceit:* Participants who first solved GRE math problems were 4 times more likely to engage in “calculating” behavior and lie to a fellow participant to obtain money in a competitive game (Wang, Zhong, & Murnighan, 2014).

Break students into small groups and have them discuss the ways that spillover effects might affect behaviors in other settings. For example, ask how they might use this phenomenon to:

- create opposition to a political candidate?
- sign up for a meditation class?
- spend more money to purchase an eco-friendly car?
- get an extension from your professor on an assignment?

Finally, point out to students that the examples reviewed here reflect the spillover of a recent behavioral mind-set. It is also possible to see such spillover effects from behavioral mind-sets that are used frequently. What sorts of cognitive processes and thought patterns do students regularly engage in, and how might these affect their behavior, attitudes, and wellbeing? æ

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